AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

October 28, 2008

Mary Dyas
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

SUBJECT: APCD Comments Regarding the Carrizo Energy Solar Farm Project AFC Pre-Application Meeting/Referral/Notice. (07-AFC-8)

Dear Ms. Dyas,

Thank you for including the San Luis Obispo County Air Pollution Control District (APCD) in the environmental review process. We have completed our review of the proposed project. This project involves the construction of a solar-thermal power plant which will consist of approximately 195 CLFR (Compact Linear Fresnal Reflector) solar concentrating lines, and associated steam drums, steam turbine generators (STGs), air-cooled condensers (ACCs), and infrastructure, producing up to a nominal 177 megawatts (MW) net. The project is located on an abandoned AG parcel outside the California Valley URL. The typical hours for the CESF will be approximately 13 hours per day, or an average of 4,765 hour per year. CESF site will encompass approximately 640 acres of fenced area on Section 28, Township 29, Range 18 East, on the California Valley and La Panza NE USGS. *The following are APCD comments that are pertinent to this project.*

GENERAL COMMENTS

As a commenting agency in the California Environmental Quality Act (CEQA) review process for a project, the APCD assesses air pollution impacts from both the construction and operational phases of a project, with separate significant thresholds for each. **Please address the action items contained in this letter that are highlighted by bold and underlined text**.

CONSTRUCTION PHASE MITIGATION

There is not enough information provided to indicate the construction phase impacts from this project. However, due to the total acreage and the identified grading and land preparation, we believe the construction phase emissions will likely exceed the APCD significance threshold values of 185 lbs of emissions per day and 2.5 tons of emissions per quarter. To reduce these emissions below our significance threshold, the APCD recommends the following measures:

Sensitive Receptors

According to the maps provided, the location of the Construction Laydown Area is approximately 850 feet from the Carrisa Plains Elementary School. The APCD is concerned about the diesel activity that may occur on this area and the impact to sensitive receptors at the school site. To reduce impacts, the APCD recommends diesel activity be excluded within 1000 feet of the Carrisa Plains Elementary School. This may be accomplished by measuring the distance from the school and limiting any diesel activity within this 1000 foot buffer.

Developmental Burning

Effective February 25, 2000, **the APCD prohibited developmental burning of vegetative material within San Luis Obispo County.** Under certain circumstances where no technically feasible alternatives are available, limited developmental burning under restrictions may be allowed. This requires prior application, payment of fee based on the size of the project, APCD approval, and issuance of a burn permit by the APCD and the local fire department authority. The applicant is required to furnish the APCD with the study of technical feasibility (which includes costs and other constraints) at the time of application. If you have any questions regarding these requirements, contact the APCD Enforcement Division at 781-5912.

Dust Control Measures

Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust complaints could result in a violation of the APCD's 402 "Nuisance" Rule. Any project with a grading area greater than 4.0 acres exceeds the APCD's PM_{10} quarterly threshold. **This project is greater than 4.0 acres of grading area and near potentially sensitive receptors and shall be conditioned to comply with all applicable Air Pollution Control District regulations pertaining to the control of fugitive dust (PM10) as contained in section 6.5 of the Air Quality Handbook. All site grading and demolition plans noted shall list the following regulations:**

a. Reduce the amount of the disturbed area where possible,
b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible,
c. All dirt stock pile areas should be sprayed daily as needed,
d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities,
e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating native grass seed and watered until vegetation is established,
f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD,
g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon

as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used,

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site,
i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114,
j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site, and
k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

All PM_{10} mitigation measures required should be shown on grading and building plans. In addition, the contractor or builder should designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. **The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and finished grading of the area.**

Construction Permit Requirements

Based on the information provided, we are unsure of the types of equipment that may be present during the project's construction phase. Portable equipment, 50 horsepower (hp) or greater, used during construction activities will require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- IC engines;
- Fueling stations;
- Unconfined abrasive blasting operations;
- Concrete batch plants;
- Rock and pavement crushing;
- Tub grinders; and
- Trommel screens.

To minimize potential delays, prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Construction Activity Management Plan

Develop a comprehensive Construction Activity Management Plan designed to minimize the amount of large construction equipment operating during any given time period. The plan should be submitted to the District for review and approval prior to the start of construction. The plans should include but not be limited to the following elements:

- A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "dust control measures" section.
- Schedule construction truck trips during non-peak hours to reduce peak hour emissions;
- Limit the length of the construction work-day period, if necessary;
- Phase construction activities, if appropriate; and,
- Reduce sensitive receptors exposure to diesel exhaust PM by limiting diesel activity within 1000 feet of the school site.

OPERATIONAL PHASE MITIGATION

Operational Permit Requirements
At this time, the applicant has worked with the APCD's Engineering Division to secure an authority to construct (ATC) for the use of a back-up generator that will be used during the operational phase of this project. No other permit is required at this time. **Please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.**

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at 781-5912.

Sincerely,

Meghan Field
MDF/arr

cc: Mr. Perry Fontana
Karen Brooks, Enforcement Division, APCD
Gary Willey, Engineering Division, APCD

Attachments:
1. Guidelines for the Development of a Construction Activity Management Plan

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

Guidelines for the Development of a Construction Activity Management Plan

A Construction Activity Management Plan (CAMP) may be required by APCD for construction projects that will result in significant particulate matter (PM) and/or nitrogen oxide (NOx) emission impacts, such as potentially high emissions of fugitive dust or NOx, or emissions in areas where potential nuisance concerns are present. The purpose of the CAMP is to specifically define the mitigation measures that will be employed as the project moves forward, in order to ensure all requirements are accounted for in the project budget, included in the contractor bid specifications, and are fully implemented throughout project construction.

The following information is provided as a guide for development of the CAMP. Specific implementation of mitigation measures will vary from project to project. **The CAMP is a comprehensive mitigation plan and will need to specifically identify all of the mitigation measures to be implemented for the project.** The following is a list of potential mitigation measures to include in the CAMP. The CAMP must be submitted to the APCD for approval prior to the start of the project.

Prior to commencement of any construction activities (e.g., site preparation, grading or construction activities) the applicant will notify the appropriate planning agency and the APCD, by letter, of the status of the air quality measures outlined in the CAMP. The letter will state the following: 1) the controls that will be implemented; 2) the reasons why any unimplemented measures are considered infeasible and the measures incorporated to substitute for these measures; 3) when scheduled construction activities will be initiated to allow for APCD inspection of the mitigation measures.

- **SENSITIVE RECEPTORS (NOx and PM)**
  The proximity of the project to the nearest residence and to the nearest sensitive receptor (e.g. school, daycare, hospital or senior center) needs to be documented and the mitigation measures outlined in the CAMP need to be tailored accordingly to provide adequate protection to any nearby sensitive receptors. (e.g. of mitigation measures: Locate construction staging areas away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows).

- **MITIGATION MONITORING (NOx and PM)**
  A person or persons must be designated to monitor the CAMP implementation. This person will be responsible for compliance with the CAMP. Their duties shall include holidays and weekend periods when work may not be in progress. Depending on the site location, a certified visible emissions monitor may be required. The name and telephone number of such persons shall be provided to the APCD prior to the start of any construction activities.

- **DUST CONTROL (PM)**
  Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust complaints could result in a violation of the APCD's 402 "Nuisance" Rule. The following is a list of measures that may be required throughout the duration of the construction activities:
  a. Reduce the amount of the disturbed area where possible.
  b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. An adequate water supply source must be identified. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible.
  c. All dirt stockpile areas should be sprayed daily as needed, covered, or an APCD approved alternative method will be used.

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.
e. Exposed ground areas that will be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.
f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.
g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.
k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

- **SPECIAL CONDITIONS**

Naturally Occurring Asbestos

If the project site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (ARB) the following requirements apply. Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any construction activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the District. If NOA is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Please refer to the APCD web page at *http://www.slocleanair.org/business/asbestos.asp* for more information or contact Karen Brooks of our Enforcement Division at 781-5912.

Demolition of Asbestos Containing Materials

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines (transite pipes or insulation on pipes). If utility pipelines are scheduled for removal or relocation; or building(s) are removed or renovated this project may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP). These requirements include but are not limited to: 1) notification requirements to the District, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. Please contact Tim Fuhs of the Enforcement Division at 781-5912 for further information.

Lead during demolition

Demolition of structures coated with lead based paint are a concern for the APCD. Improper demolition can result in the release of lead containing particles from the site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead. Therefore, proper abatement of lead before demolition of these structures must be performed in order to prevent the release of lead from the site.

Depending on removal method, an APCD permit may be required. Contact David Dixon from the APCD's engineering division at 781-5912 for more information. Approval of a lead work plan by the District is required and must be submitted ten days prior to the start of the demolition. Contact Tim Fuhs from the District's enforcement division at 781-5912 for more information. For additional information regarding lead removal, please contact Cal-OSHA at 654-4581.

- **PERMITTING REQUIREMENTS**

Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. Operational sources may also require APCD permits. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers.
- Portable generators 50 hp or greater
- Chemical product processing and or manufacturing
- Electrical generation plants or the use of standby generator
- Food and beverage preparation (primarily coffee roasters)
- Furniture and fixture products
- Metal industries, fabrication
- Small scale manufacturing
- Auto and vehicle repair and painting facilities
- Fuel dealers
- Dry cleaning
- Pipelines
- Public utility facilities
- Boilers
- IC Engines
- Sterilization units(s) using ethylene oxide and incinerator(s)
- Cogeneration facilities
- Unconfined abrasive blasting operations
- Concrete batch plants
- Rock and pavement crushing
- Tub grinders trommel screens

To minimize potential delays, prior to the start of the project, please contact David Dixon of the District's Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

- **CONSTRUCTION EQUIPMENT EMISSION REDUCTIONS (NOx and PM)**

To mitigate air quality impacts from the emissions of construction equipment engines, the APCD has project proponents apply various emission reduction methods depending on the magnitude of the project. Below are four categories of methods used:

Standard Combustion Emission Reduction Measures for Construction Equipment

- Maintain all construction equipment in proper tune according to manufacturer's specifications
- Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- Enforce a 5 minute engine idling limit.
- Identify where feasible:
  - Use diesel construction equipment meeting ARB's 1996 or newer certification standards for off-road heavy-duty diesel engines.
  - Use electrical powered equipment.

- Substitute gasoline-powered equipment for diesel-powered equipment.
- Use alternatively fueled construction equipment, such as compressed natural gas (CNG) liquefied natural gas (LNG), propane (LPG), or biodiesel (B20 or B100).

Best Available Control Technology (BACT) for Construction Equipment

Implementation of BACT requirements as outlined in Development Plans and Conditions of Approval for a project shall be outlined in the CAMP. Implementations may include the installation of diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other APCD approved emission reduction retrofit devices on construction equipment engines. Project proponents shall work with APCD many months before any construction activity begins in order to gain approval from APCD on the equipment or process that shall include construction equipment BACT. All devices must be installed and tested prior to the start of any construction activity.

The two common after-market/treatment Diesel PM control devices are diesel oxidation catalysts (DOC) and diesel particulate filters (DPF), of which some undergo catalytic regeneration (CDPF). Diesel particulate filters are also referred to as soot filters. The following are key points to understand about DOCs and soot filters:

a. There are several steps that must take place before the correct emission control devices can be ordered for the highest emitting equipment that will be on site. Early planning is essential to ensure that project delays do not occur and that required emission reductions are realized from the start of the project. It should be noted that there can be a significant lead time for catalysts orders to arrive, thus again early coordination is essential.
b. The DOCs are effective in reducing Diesel PM emissions by approximately 25%.
c. Soot filters reduce approximately 85% of the Diesel PM emissions from engines, but must only be installed on Tier 1 or newer engines[1]. Installing soot filters on engines that do not at least meet the Tier 1 emission standards can result in excessive loading of the filter which could in turn result in the engine backpressure increasing beyond factory specifications.
d. Should use of a soot filter be needed, but the on-site equipment does not meet the Tier 1 standard, then DOCs can replace the needed soot filters at a rate of 5 DOCs for every soot filter. The more passive nature of DOCs results in them not having the soot filter engine restrictions.
e. The BACT implementation shall follow general guidelines as defined in the APCD document entitled Diesel PM Control of Construction Equipment in SLO County: General Considerations for the Installer.
f. The following APCD form for prescribing the appropriate diesel emission control device for each piece of equipment that shall be controlled with BACT shall be completed and made available upon APCD staff request: Diesel PM Control of Construction Equipment in SLO County: Pre-Installation Data Needs.
g. The APCD recommends that a backpressure port be installed before the diesel emission control device in order to test the backpressure on the engine. The following APCD form is appropriate for documenting backpressure measurements over time: The Diesel PM Control of Construction Equipment in SLO County: Installation & Backpressure Measurement Worksheet.

Equipment Scheduling (NOx and PM)

- Schedule activities to minimize the amount of large construction equipment operating simultaneously during any given time period.
- Schedule construction truck trips during non-peak hours to reduce peak hour emissions.
- Where feasible:

[1] Tier 1 or newer engines refer to engines that meet ARB and U.S. EPA Tier 1 exhaust emission standards for off-road diesel engines. In general, construction equipment built for the California market had Tier 1 engines in 1996. Equipment built in 1996 for other markets do not necessarily have Tier 1 engines. Therefore, it is necessary to look at the information plates on engines to make sure that they at least meet Tier 1 standards before a soot filter is installed.

- Limit the amount of cut and fill to 2,000 cubic yards per day.
- Limit the length of the construction workday.
- Phase construction activities.

On-road Truck Management (NOx and PM)

- Proposed truck routes should be evaluated to define routing patterns with the least impact to residential communities and sensitive receptors.
- To the extent feasible, construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions.
- Haul truck, delivery trucks and other construction equipment in loading and unloading queues should be kept with the engine off when not in use, to reduce vehicle emissions. Signs shall be placed in queuing areas to remind drivers to limit idling to no longer than 5 minutes.
- Equipment staging areas shall be located away from sensitive receptors.
- DOC and CDPFs may be necessary depending on the scale of the project.

- **CONSTRUCTION WORKER TRIPS (NOx)**
  - Implement an APCD approved Trip Reduction Program to reduce construction worker commute trips, which includes carpool matching, vanpooling, transit use, etc. Monitor worker use of alternative transportation throughout the project to ensure compliance.

- **Compliant Response (NOx and PM)**

  The CAMP should include a section that addresses complaints and complaint handling. At a minimum this section shall include the following:
  - The person(s) responsible for addressing and resolving all complaints regarding the construction activity and their contact information is:
    - Name(s)
    - Company and Title(s)
    - Phone numbers and physical address.

  - A hotline telephone number shall be established and publicized to help facilitate rapid complaint identification and resolution. In addition, Prop 65 notification with regard to toxic diesel emissions shall to be made.
  - An action plan section shall be outlined that includes additional measures or modifications to existing mitigation measures in the event of complaints.
  - All complaints shall be reported immediately to the APCD.